

CLAIMS

What is claimed is:

1. An apparatus for the preservation of still beverages comprising:  
  
a vacuum tank for maintaining a standing vacuum;  
  
a vacuum pump fluidly connected to said vacuum tank for reducing a pressure in said tank to create the vacuum;  
  
a vacuum line fluidly connected to said vacuum tank; and  
  
at least one valve head fluidly connected to said vacuum line for interfacing with a bottle having a stopper placed therein, said valve head comprising an actuator, wherein upon actuation air in the wine bottle is substantially evacuated by exposure to the vacuum and is prevented from reentering the bottle by the stopper.
2. The apparatus of claim 1, wherein said actuator displaces a valve seat located in said valve head to expose the stopper to the vacuum upon displacement of said valve seat.
3. The apparatus of claim 1, further comprising a trap in said vacuum line to prevent liquid or contaminants from entering said vacuum tank.
4. The apparatus of claim 1, further comprising a feedback mechanism, wherein said feedback mechanism starts said vacuum pump when the vacuum in said vacuum tank is below a first pre-determined level and stops said vacuum pump when the vacuum in said vacuum tank reaches a second predetermined level.
5. The apparatus of claim 1, further comprising a gauge to determine the level of the vacuum in said vacuum tank.

6. The apparatus of claim 1, further comprising a manifold for attachment of a plurality of vacuum lines.
7. The apparatus of claim 1, wherein the valve head further comprises:
  - a valve body housing a valve stem for controlling the communication of vacuum from said vacuum line to the bottle; and
  - a vacuum relief port.
8. The apparatus of claim 7 further comprising a valve seat, wherein said valve seat is disposed on said valve stem and is displaced axially upon the actuation of said actuator.
9. The apparatus of claim 8, wherein said valve stem further comprises a reduced diameter portion having a smaller diameter than the diameter of said valve seat, said reduced diameter portion being advanced through an opening created by the axial displacement of said valve seat upon actuation, and wherein the advancement of said reduced diameter portion in the opening permits fluid communication between said valve body and said vacuum line.
10. The apparatus of claim 1, wherein said vacuum tank maintains a standing vacuum between about 17 in-Hg and about 25 in-Hg.
11. The apparatus of claim 10, wherein said vacuum tank maintains a standing vacuum between about 22 in-Hg and about 24 in-Hg.
12. The apparatus of claim 1, wherein air remaining in a partially consumed 750 ml bottle is substantially evacuated in no more than about 3.5 seconds.

13. A valve head comprising:
- a handle for gripping the valve head and for transmission of a vacuum from a vacuum line through the valve head;
  - an interface for receiving a bottle;
  - a valve body for connection of said handle and said interface;
  - a valve stem having first and second positions and having a valve seat for fluid isolation of said interface from said handle when said valve stem is in said first position; and
  - an actuator for transmission of energy to said valve stem to move said valve stem from said first position to said second position, wherein upon movement of said valve stem from said first to said second position, said interface and said handle are in fluid communication.
14. The valve head of claim 13 wherein said actuator is spring biased and wherein upon release of said actuator the valve stem moves from said second to said first position.
15. The valve head of claim 13 further comprising a vacuum relief port connecting the interface to the atmosphere and permitting the equalization of pressure.
16. The valve head of claim 15, wherein upon movement of said valve stem from said first to said second position, said vacuum relief port seals to prevent fluid communication between said interface and the atmosphere.
17. The valve head of claim 15, wherein upon movement of said valve stem from said second position to said first position said vacuum relief port establishes fluid communication between said interface and the atmosphere.

18. A method for preserving still beverages by substantially evacuating air contained in a bottle comprising the steps of:
  - inserting a stopper having a one-way valve into a bottle;
  - inserting the stoppered bottle into a valve head of an apparatus having a vacuum tank for maintaining a standing vacuum, a vacuum pump connected to the vacuum tank for reducing a pressure in the tank to create the vacuum, a vacuum line connected to the vacuum tank, and a valve head connected to the vacuum line;
  - actuating the valve head to permit the application of the vacuum in the vacuum line to the stoppered bottle; and
  - removing air from the bottle through the stopper.
19. The method of claim 18, wherein said vacuum tank maintains a standing vacuum between about 17 in-Hg and about 25 in-Hg.
20. The method of claim 19, wherein said vacuum tank maintains a standing vacuum between about 22 in-Hg and about 24 in-Hg.
21. The method of claim 18, wherein air remaining in a partially consumed 750 ml bottle is substantially evacuated in no more than about 3.5 seconds.